



# Fact Sheet

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## Force-on-Force Security Exercises

*Security is a priority for the NRC - it is one of our strategic goals. Force-on-Force (FOF) exercises are an essential part of NRC's oversight of nuclear power plant security programs. One of the NRC's responses to September 11<sup>th</sup> was to upgrade the security forces at nuclear facilities around the country. To test the adequacy of the security forces, the NRC implemented a more robust FOF exercise program.*

### Background

The Nuclear Regulatory Commission (NRC) has carried out force-on-force (FOF) exercises regularly at commercial operating nuclear power plants since 1991 as part of its comprehensive security program. However, they are not pass/fail inspections. They are the primary means to evaluate and improve the effectiveness of plant security programs to prevent radiological sabotage as required by NRC regulations (10 CFR Part 73).

FOF exercises assess a nuclear plant's physical protection to defend against the so-called "design basis threat (DBT)." The DBT characterizes the adversary against which plant owners must design physical protection systems and response strategies. The NRC periodically assesses the adequacy of the DBT and makes revisions as necessary.

A full FOF exercise, spanning several days, includes both table-top drills and simulated combat between a mock commando-type adversary force and the nuclear plant security force. During the attack, the adversary force attempts to reach and damage key safety systems and components that protect the reactor's core (containing radioactive fuel) or the spent nuclear fuel pool, potentially causing a radioactive release to the environment. The nuclear power plant's security force, in turn, seeks to stop the adversaries from reaching the plant's equipment and causing such a release. These exercises include a wide array of Federal, state, and local law enforcement and emergency planning officials in addition to plant operators and NRC personnel.

### Before September 11, 2001

Before Sept. 11, 2001, NRC conducted security exercises about once every eight years at all 65 nuclear plant sites nationwide. These exercises were conducted at about eight sites per year. Immediately after the Sept. 11 attacks, nuclear plants went to their highest level of security. Force-on-force exercises were temporarily halted after the September 11 attacks because

they would have distracted plant security forces. Instead, NRC security staff focused on strengthening and monitoring security improvements that nuclear power plants made in response to NRC advisories.

## **Changes Since 9/11**

After September 11, 2001, the NRC worked to strengthen its security programs while it reevaluated its DBT and improved its FOF exercises. In one of its key decisions, the Commission decided to increase the frequency of security exercises starting in the fall 2004, so that NRC would evaluate a FOF exercise at each plant site once every three years, with tactical security drills in the intervening years.

The NRC redesigned its FOF program after more than two years of testing at almost two-thirds of the nuclear power plants in the country. [The details of the FOF exercises are Safeguards Information, which is protected by law from public disclosure under the Atomic Energy Act.] An expanded table-top exercise program was conducted during 2002 and an expanded FOF exercise program was carried out during 2003.

In February 2004, the NRC began a transitional force-on-force program that incorporated lessons learned from the previous two years. It also used the characteristics of a supplemented design basis threat (DBT) that had expanded adversary force capabilities. In accordance with an NRC Order issued April 2003, all nuclear power plant operators had to be able to meet the requirements of the supplemental DBT, that altered the type of threats and attacks the plants had to be able to deter, by October 29, 2004. All plants met this requirement.

## **Current FOF Program**

In November 2004, NRC began implementation of its redesigned, full-scale FOF program that incorporates experience and lessons learned since September 11, 2001. The NRC has increased the frequency of FOF exercises so that each nuclear power plant site will conduct an NRC evaluated exercise at least once every three years, rather than once every eight years, with tactical response security drills in the intervening years. The current FOF program reflects the supplemented DBT and significantly increases the level of realism, while ensuring the safety of both plant employees and the public.

With regard to the conduct of exercises, NRC notifies plant operators in advance of FOF exercises for safety and logistical purposes and to provide adequate planning time for coordination of the efforts of two sets of security officers — one for maintaining actual security, another for participating in the exercise. In addition, arrangements must be made for a group of individuals who will control and monitor the exercise. A key goal is to balance personnel safety, while maintaining actual plant security during an exercise that is as realistic as possible.

In preparation for a FOF exercise, information from table-top drills, inspections, and security plan reviews are used to design a number of commando-style attacks seeking to probe for potential deficiencies in the defensive strategy. The aim of the site's defenders is to keep the attackers from destroying or damaging key equipment. Any potentially significant deficiencies in

the protective strategy identified during FOF exercises are promptly reviewed and fixed.

***NRC's FOF security exercises realistically test guard capability and security programs at nuclear power plants.***

- The NRC requires nuclear power plant operators to defend the plant against attackers and potential theft of special nuclear material.
- During the FOF, a number of commando-style attacks are carried out against a plant's security forces, looking for deficiencies in the plant operator's defensive strategy.
- Any significant problems are promptly identified, reviewed, and fixed.
- Each nuclear power plant site will have one FOF exercise every three years.
- The NRC and the plant operator ensure the safety of plant employees and the security of the plant during FOF exercises.

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## **Composite Adversary Force**

A credible, well-trained, and consistent mock adversary force is vital to the NRC's FOF program. Previously, power plant operators had assembled adversary teams that frequently included security officers from their own sites, other licensees, and state police tactical team members. However, using these diverse sources caused inconsistencies in the capabilities of the adversary team.

To improve the program, the NRC worked with the nuclear industry to develop a composite adversary force (CAF) that is trained to standards issued by the Commission. NRC initially considered using NRC staff, other federal personnel, and industry personnel for ensuring a credible, well-trained, and consistent adversary force, but decided to issue adversary force standards and guidelines for the industry to implement. The new adversary force has been used for all FOF exercises conducted after October 2004. The CAF is a significant improvement in ability, consistency, and effectiveness over the previous adversary forces.

The CAF is evaluated at each exercise using rigorous NRC performance standards issued in April 2004. The standards cover:

- knowledge, skills, abilities, performance and training of team members;
- individual and team tactics, tactical communications, and operational planning,
- firearms knowledge and proficiency;
- exercise simulation equipment, physical security systems and specialized equipment; and
- medical qualifications, physical fitness, specific minimum qualifications, and medical disqualification

The CAF is managed by a company (Wackenhut) that provides much of the security for U.S. nuclear power plants and is, therefore, well-versed in the security operations of power plants. The NRC recognizes that there may be a perception of a conflict of interest where the management company cannot adequately test either the CAF or the plant security force. NRC established a clear separation of functions between the CAF and plant security force to ensure an independent, reliable, and credible mock adversary force. In addition, no member of the CAF may participate in an exercise at his or her home site.

It is important to emphasize that the NRC, not the mock adversary force, designs, runs, and evaluates the results of the FOF exercises. Because the mock adversary force does not establish the exercise objectives, boundaries, or timelines, and because the adversary force's performance is subject to continual observation by NRC and its contractors, the agency controls the exercise. Should industry be unable to maintain an adequate and objective mock adversary force that meets

***A successful FOF program depends on a well trained mock adversary force.***

- Variations in part, adversary teams led to inconsistencies.
- NRC and industry developed a composite adversary force (CAF), trained to NRC standards, for all FOF exercises.
- The CAF is a significant improvement in ability, consistency, and effectiveness over the previous adversary forces.

the standards mandated by the NRC, the NRC will take the necessary actions to ensure the effectiveness of the force-on-force evaluation program.

### **NRC's Overall Security Program**

FOF exercises are an essential part of NRC's oversight of plant owners' security programs and their compliance with NRC security requirements. The agency continues to evaluate and strengthen its overall security program in response to changes in the threat environment, technological advancements, and lessons learned. As a result, substantial improvements to nuclear plant security have been made to protect against terrorism and radiological sabotage including:

- A well-trained security force,
- Robust physical barriers,
- Intrusion detection systems,
- Surveillance systems, and
- Plant access controls.

Together, these efforts help make nuclear power plants among the best protected private sector facilities in the nation.

Additional information is available on NRC's Web site at

<http://www.nrc.gov/security.html>

Other security Fact Sheets include:

- Dirty Bombs
- Nuclear Security Enhancements Since 9/11
- Safety and Security Improvements at Nuclear Plants

